11.6.5 Journal: Volume Name: Isaiah Singh Date: 5/10/2020

ALS Geometry *Points Possible:* 20

Scenario: Popcorn Sizes

Instructions:

- View the video found on page 1 of this journal activity.
- Using the information provided in the video, answer the questions below.
- Show your work for all calculations.

The Students' Conjectures: Joy and John have a total of $10.00 to buy popcorn for 10 people. They are trying to decide which size popcorn gives the best value.

1. Complete the table to summarize what you know about each student's position. (**2 points**: 1 point for each row of the chart)

Classmate	**Conjecture**
Joy	Thinks the XL Tub gives the best value.
John	10 small pop-cones for every person the best option.

Analyze the Conjecture:

2. What size popcorn do you expect will have the best value for the money? Why? (**1 point**)

Answer: The extra-large tub will give you the best value because the size is larger for less.

Analyze the Data:

3. Fill in the chart with what you know about the shapes of the popcorn containers. (**3 points**: 1 point for each row)

Size	Container shape	Dimensions: base	Dimensions: height	Price
Extra Large Tub	Cylinder	10 in	10 inches	9.99$
Regular Size	Rectangular	5x3 in	8 inches	1.99$
Pop-Cone	Cone	5 in	8 inches	0.99$

4. What is the volume of the Extra Large Tub? (**1 point**)

Answer: 784

5. What is the price per cubic inch for the Extra Large Tub? (**1 point**)

Answer: $0.0127/cubic inch

6. What is the volume of the Regular Size popcorn? (**2 points**)

Answer: (5*3)*8=120 In^3

7. What is the price per cubic inch for the Regular Size popcorn? (**2 points**)

Answer: 1.99/120=0.0165

8. What is the volume of the Pop-Cone? (**2 points**)
Answer: 650

9. What is the price per cubic inch for the Pop-Cone? (**2 points**)

Answer: **0.99/102.63=0.000964**

Making a Decision:

10. Who was correct? Which size is the best deal? How should Joy and John spend the $10.00? (**2 points**)

Answer: The best deal is the XL bag.

Further Exploration:

11. How many Pop-Cones would you have to buy to equal the volume of an Extra Large Tub? (**1 point**)

Answer: 785.4/102.63= 7.65So you would need to buy 8 cones to equal the volume of an XL Tub

12. If each pair of two students shares 1 Regular Size popcorn, how many cups of popcorn will each student get? (1 cup = 14.4 in^3) (**1 point**)

Answer: 120/2= 60 In^360/ 14.4 = 4.166 Each student will get 4 full cups and 1 cup with a tiny bit in it.